> This Raw Listing contains the General Information **ENTERED**
> Section and up to first 5 pages.

```
 1    <110> APPLICANT: Couto, Linda B.
 2          Colosi, Peter C.
 3    <120> TITLE OF INVENTION: Adeno-Associated Vectors for Expression of Factor VIII
 4          by Target Cells
 5    <130> FILE REFERENCE: Avigen-04082
 6    <140> CURRENT APPLICATION NUMBER: US/09/470,618
 7    <141> CURRENT FILING DATE: 1999-12-22
 8    <150> EARLIER APPLICATION NUMBER: 09/364,862
 9    <151> EARLIER FILING DATE: 1999-07-30
10    <150> EARLIER APPLICATION NUMBER: 60/125,974
11    <151> EARLIER FILING DATE: 1999-03-24
12    <150> EARLIER APPLICATION NUMBER: 60/104,994
13    <151> EARLIER FILING DATE: 1998-10-20
14    <160> NUMBER OF SEQ ID NOS: 15
15    <170> SOFTWARE: PatentIn Ver. 2.0
16    <210> SEQ ID NO 1
17    <211> LENGTH: 59
18    <212> TYPE: DNA
19    <213> ORGANISM: Artificial Sequence
20    <220> FEATURE:
21    <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
22    <400> SEQUENCE: 1
23          cccaagcttg cggccgcccg ggtgccgccc ctaggcaggt aagtgccgtg tgtggttcc   59
24    <210> SEQ ID NO 2
25    <211> LENGTH: 59
26    <212> TYPE: DNA
27    <213> ORGANISM: Artificial Sequence
28    <220> FEATURE:
29    <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
30    <400> SEQUENCE: 2
31          ccgctcgagc agagctctat ttgcatggtg gaatcgatgc cgcgggaacc acacacggc   59
32    <210> SEQ ID NO 3
33    <211> LENGTH: 103
34    <212> TYPE: DNA
35    <213> ORGANISM: Artificial Sequence
36    <220> FEATURE:
37    <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
38    <400> SEQUENCE: 3
39          cccaagcttg cggccgcccg ggtgccgccc ctaggcaggt aagtgccgtg tgtggttccc 60
40          gcggcatcga ttccaccatg caaatagagc tctgctcgag cgg                    103
41    <210> SEQ ID NO 4
42    <211> LENGTH: 57
43    <212> TYPE: DNA
44    <213> ORGANISM: Artificial Sequence
```

```
45   <220> FEATURE:
46   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
47   <400> SEQUENCE: 4
48        ttcccgcggg cctggcctct ttacgggtta tggcccttgc gtgccttgaa ttactga      57
49   <210> SEQ ID NO 5
50   <211> LENGTH: 57
51   <212> TYPE: DNA
52   <213> ORGANISM: Artificial Sequence
53   <220> FEATURE:
54   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
55   <400> SEQUENCE: 5
56        gaatcgatac ctgtggagaa aaagaaaaag tggatgtcag tgtcagtaat tcaaggc      57
57   <210> SEQ ID NO 6
58   <211> LENGTH: 99
59   <212> TYPE: DNA
60   <213> ORGANISM: Artificial Sequence
61   <220> FEATURE:
62   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
63   <400> SEQUENCE: 6
64        ttcccgcggg cctggcctct ttacgggtta tggcccttgc gtgccttgaa ttactgacac 60
65        tgacatccac tttttctttt tctccacagg tatcgattc                         99
66   <210> SEQ ID NO 7
67   <211> LENGTH: 100
68   <212> TYPE: DNA
69   <213> ORGANISM: Artificial Sequence
70   <220> FEATURE:
71   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
72   <400> SEQUENCE: 7
73        agggaatgtt tgttcttaaa taccatccag ggaatgtttg ttcttaaata ccatccaggg 60
74        aatgtttgtt cttaaatacc atctacagtt attggttaaa                        100
75   <210> SEQ ID NO 8
76   <211> LENGTH: 59
77   <212> TYPE: DNA
78   <213> ORGANISM: Artificial Sequence
79   <220> FEATURE:
80   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
81   <400> SEQUENCE: 8
82        ggaaaggtga tctgtgtgca gaaagactcg ctctaatata cttctttaac caataactg   59
83   <210> SEQ ID NO 9
84   <211> LENGTH: 144
85   <212> TYPE: DNA
86   <213> ORGANISM: Artificial Sequence
87   <220> FEATURE:
88   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
89   <400> SEQUENCE: 9
90        agggaatgtt tgttcttaaa taccatccag ggaatgtttg ttcttaaata ccatccaggg 60
91        aatgtttgtt cttaaatacc atctacagtt attggttaaa gaagtatatt agagcgagtc 120
92        tttctgcaca cagatcacct ttcc                                        144
93   <210> SEQ ID NO 10
94   <211> LENGTH: 59
```

```
 95   <212> TYPE: DNA
 96   <213> ORGANISM: Artificial Sequence
 97   <220> FEATURE:
 98   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
 99   <400> SEQUENCE: 10
100       tcgagaataa aagatcagag ctctagagat ctgtgtgttg gtttttttgtg tgcggccgc  59
101   <210> SEQ ID NO 11
102   <211> LENGTH: 59
103   <212> TYPE: DNA
104   <213> ORGANISM: Artificial Sequence
105   <220> FEATURE:
106   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
107   <400> SEQUENCE: 11
108       tcgagcggcc gcacacaaaa aaccaacaca cagatctcta gagctctgat cttttattc  59
109   <210> SEQ ID NO 12
110   <211> LENGTH: 63
111   <212> TYPE: DNA
112   <213> ORGANISM: Artificial Sequence
113   <220> FEATURE:
114   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
115   <400> SEQUENCE: 12
116       tcgagaataa aagatcagag ctctagagat ctgtgtgttg gtttttttgtg tgcggccgct 60
117       cga                                                             63
118   <210> SEQ ID NO 13
119   <211> LENGTH: 11933
120   <212> TYPE: DNA
121   <213> ORGANISM: Artificial Sequence
122   <220> FEATURE:
123   <223> OTHER INFORMATION: Description of Artificial Sequence:  Synthetic
124   <400> SEQUENCE: 13
125       cagctgcgcg ctcgctcgct cactgaggcc gcccgggcaa agcccgggcg tcgggcgacc 60
126       tttggtcgcc cggcctcagt gagcgagcga gcgcgcagag agggagtggc caactccatc 120
127       actaggggtt cctgcggccg cccagggaat gtttgttctt aaataccatc cagggaatgt 180
128       ttgttcttaa ataccatcca gggaatgttt gttcttaaat accatctaca gttattggtt 240
129       aaagaagtat attagagcga gtctttctgc acacagatca cctttccggg tgccgcccct 300
130       aggcaggtaa gtgccgtgtg tggttcccgc gggcctggcc tctttacggg ttatggccct 360
131       tgcgtgcctt gaattactga cactgacatc cactttttct ttttctccac aggtatcgat 420
132       tccaccatgc aaatagagct ctccacctgc ttctttctgt gccttttgcg attctgcttt 480
133       agtgccacca gaagatacta cctgggtgca gtggaactgt catgggacta tatgcaaagt 540
134       gatctcggtg agctgcctgt ggacgcaaga tttcctccta gagtgccaaa atctttccca 600
135       ttcaacacct cagtcgtgta caaaaagact ctgtttgtag aattcacgga tcacctttc 660
136       aacatcgcta agccaaggcc accctggatg ggtctgctag gtcctaccat ccaggctgag 720
137       gtttatgata cagtggtcat tacacttaag aacatggctt cccatcctgt cagtcttcat 780
138       gctgttggtg tatcctactg gaaagcttct gagggagctg aatatgatga tcagaccagt 840
139       caaagggaga aagaagatga taaagtcttc cctggtggaa gccatacata tgtctggcag 900
140       gtcctgaaag agaatggtcc aatggcctct gacccactgt gccttaccta ctcatatctt 960
141       tctcatgtgg acctggtaaa agacttgaat tcaggcctca ttggagccct actagtatgt 1020
142       agagaaggga gtctggccaa ggaaaagaca cagaccttgc acaaatttat actacttttt 1080
143       gctgtatttg atgaagggaa aagttggcac tcagaaacaa agaactcctt gatgcaggat 1140
144       agggatgctg catctgctcg ggcctggcct aaaatgcaca cagtcaatgg ttatgtaaac 1200
```

```
145       aggtctctgc caggtctgat tggatgccac aggaaatcag tctattggca tgtgattgga 1260
146       atgggcacca ctcctgaagt gcactcaata ttcctcgaag gtcacacatt tcttgtgagg 1320
147       aaccatcgcc aggcgtcctt ggaaatctcg ccaataactt tccttactgc tcaaacactc 1380
148       ttgatggacc ttggacagtt tctactgttt tgtcatatct cttcccacca acatgatggc 1440
149       atggaagctt atgtcaaagt agacagctgt ccagaggaac cccaactacg aatgaaaaat 1500
150       aatgaagaag cggaagacta tgatgatgat cttactgatt ctgaaatgga tgtggtcagg 1560
151       tttgatgatg acaactctcc ttcctttatc caaattcgct cagttgccaa gaagcatcct 1620
152       aaaacttggg tacattacat tgctgctgaa gaggaggact gggactatgc tcccttagtc 1680
153       ctcgcccccg atgacagaag ttataaaagt caatatttga acaatggccc tcagcggatt 1740
154       ggtaggaagt acaaaaaagt ccgatttatg gcatacacag atgaaacctt taagactcgt 1800
155       gaagctattc agcatgaatc aggaatcttg ggacctttac tttatgggga agttggagac 1860
156       acactgttga ttatatttaa gaatcaagca agcagaccat ataacatcta ccctcacgga 1920
157       atcactgatg tccgtccttt gtattcaagg agattaccaa aaggtgtaaa acatttgaag 1980
158       gattttccaa ttctgccagg agaaatattc aaatataaat ggacagtgac tgtagaagat 2040
159       gggccaacta aatcagatcc tcggtgcctg acccgctatt actctagttt cgttaatatg 2100
160       gagagagatc tagcttcagg actcattggc cctctcctca tctgctacaa agaatctgta 2160
161       gatcaaagag gaaaccagat aatgtcagac aagaggaatg tcatcctgtt ttctgtattt 2220
162       gatgagaacc gaagctggta cctcacagag aatatacaac gctttctccc caatccagct 2280
163       ggagtgcagc ttgaggatcc agagttccaa gcctccaaca tcatgcacag catcaatggc 2340
164       tatgtttttg atagtttgca gttgtcagtt tgtttgcatg aggtggcata ctggtacatt 2400
165       ctaagcattg gagcacagac tgacttcctt tctgtcttct tctctggata taccttcaaa 2460
166       cacaaaatgg tctatgaaga cacactcacc ctattcccat tctcaggaga aactgtcttc 2520
167       atgtcgatgg aaaacccagg tctatggatt ctggggtgcc acaactcaga ctttcggaac 2580
168       agaggcatga ccgccttact gaaggtttct agttgtgaca agaacactgg tgattattac 2640
169       gaggacagtt atgaagatat ttcagcatac ttgctgagta aaaacaatgc cattgaacca 2700
170       agaagcttcg aaataactcg tactactctt cagtcagatc aagaggaaat tgactatgat 2760
171       gataccatat cagttgaaat gaagaaggaa gattttgaca tttatgatga ggatgaaaat 2820
172       cagagccccc gcagctttca aaagaaaaca cgacactatt ttattgctgc agtggagagg 2880
173       ctctgggatt atgggatgag tagctcccca catgttctaa gaaacagggc tcagagtggc 2940
174       agtgtccctc agttcaagaa agttgttttc caggaattta ctgatggctc ctttactcag 3000
175       cccttatacc gtggagaact aaatgaacat ttgggactcc tggggccata tataagagca 3060
176       gaagttgaag ataatatcat ggtaactttc agaaatcagg cctctcgtcc ctattccttc 3120
177       tattctagcc ttatttctta tgaggaagat cagaggcaag gagcagaacc tagaaaaaac 3180
178       tttgtcaagc ctaatgaaac caaaacttac ttttggaaag tgcaacatca tatggcaccc 3240
179       actaaagatg agtttgactg caaagcctgg gcttatttct ctgatgttga cctggaaaaa 3300
180       gatgtgcact caggcctgat tggacccctt ctggtctgcc acactaacac actgaaccct 3360
181       gctcatggga acaagtgac agtacaggaa tttgctctgt ttttcaccat ctttgatgag 3420
182       accaaaagct ggtacttcac tgaaaatatg gaaagaaact gcagggctcc ctgcaatatc 3480
183       cagatggaag atcccacttt taaagagaat tatcgcttcc atgcaatcaa tggctacata 3540
184       atggatacac tacctggctt agtaatggct caggatcaaa ggattcgatg gtatctgctc 3600
185       agcatgggca gcaatgaaaa catccattct attcatttca gtggacatgt gttcactgta 3660
186       cgaaaaaaag aggagtataa aatggcactg tacaatctct atccaggtgt ttttgagaca 3720
187       gtggaaatgt taccatccaa agctggaatt tggcgggtgg aatgccttat tggcgagcat 3780
188       ctacatgctg ggatgagcac acttttttctg gtgtacagca ataagtgtca gactcccctg 3840
189       ggaatggctt ctggacacat tagagatttt cagattacag cttcaggaca atatggacag 3900
190       tgggccccaa agctggccag acttcattat tccggatcaa tcaatgcctg gagcaccaag 3960
191       gagccctttt cttggatcaa ggtggatctg ttggcaccaa tgattattca cggcatcaag 4020
192       acccagggtg cccgtcagaa gttctccagc ctctacatct ctcagtttat catcatgtat 4080
193       agtcttgatg ggaagaagtg gcagacttat cgaggaaatt ccactggaac cttaatggtc 4140
194       ttctttggca atgtggattc atctgggata aaacacaata ttttaaccc tccaattatt 4200
```

```
195        gctcgataca tccgtttgca cccaactcat tatagcattc gcagcactct tcgcatggag 4260
196        ttgatgggct gtgatttaaa tagttgcagc atgccattgg gaatggagag taaagcaata 4320
197        tcagatgcac agattactgc ttcatcctac tttaccaata tgtttgccac ctggtctcct 4380
198        tcaaaagctc gacttcacct ccaagggagg agtaatgcct ggagacctca ggtgaataat 4440
199        ccaaaagagt ggctgcaagt ggacttccag aagacaatga aagtcacagg agtaactact 4500
200        cagggagtaa aatctctgct taccagcatg tatgtgaagg agttcctcat ctccagcagt 4560
201        caagatggcc atcagtggac tctctttttt cagaatggca aagtaaaggt ttttcaggga 4620
202        aatcaagact ccttcacacc tgtggtgaac tctctagacc caccgttact gactcgctac 4680
203        cttcgaattc accccagag ttgggtgcac cagattgccc tgaggatgga ggttctgggc 4740
204        tgcgaggcac aggacctcta ctgactcgag aataaaagat cagagctcta gagatctgtg 4800
205        tgttggtttt ttgtgtgcgg ccgcaggaac ccctagtgat ggagttggcc actccctctc 4860
206        tgcgcgctcg ctcgctcact gaggccgggc gaccaaaggt cgcccgacgc ccgggctttg 4920
207        cccgggcggc ctcagtgagc gagcgagcgc gcagctgcct gcaggacatg tgagcaaaag 4980
208        gccagcaaaa ggccaggaac cgtaaaaagg ccgcgttgct ggcgtttttc cataggctcc 5040
209        gcccccctga cgagcatcac aaaaatcgac gctcaagtca gaggtggcga acccgacag 5100
210        gactataaag ataccaggcg tttcccctg gaagctccct cgtgcgctct cctgttccga 5160
211        ccctgccgct taccggatac ctgtccgcct ttctcccttc gggaagcgtg cgctttctc 5220
212        atagctcacg ctgtaggtat ctcagttcgg tgtaggtcgt tcgctccaag ctgggctgtg 5280
213        tgcacgaacc ccccgttcag cccgaccgct gcgccttatc cggtaactat cgtcttgagt 5340
214        ccaacccggt aagacacgac ttatcgccac tggcagcagc cactggtaac aggattagca 5400
215        gagcgaggta tgtaggcggt gctacagagt tcttgaagtg gtggcctaac tacggctaca 5460
216        ctagaaggac agtatttggt atctgcgctc tgctgaagcc agttaccttc ggaaaaagag 5520
217        ttggtagctc ttgatccggc aaacaaacca ccgctggtag cggtggtttt tttgtttgca 5580
218        agcagcagat tacgcgcaga aaaaaggat ctcaagaaga tcctttgatc ttttctacgg 5640
219        ggtctgacgc tcagtggaac gaaaactcac gttaagggat tttggtcatg agattatcaa 5700
220        aaaggatctt cacctagatc cttttaaatt aaaaatgaag ttttaaatca atctaaagta 5760
221        tatatgagta aacttggtct gacagttacc aatgcttaat cagtgaggca cctatctcag 5820
222        cgatctgtct atttcgttca tccatagttg cctgactccc cgtcgtgtag ataactacga 5880
223        tacgggaggg cttaccatct ggccccagtg ctgcaatgat accgcgagac ccacgctcac 5940
224        cggctccaga tttatcagca ataaaccagc cagccggaag ggccgagcgc agaagtggtc 6000
225        ctgcaacttt atccgcctcc atccagtcta ttaattgttg ccgggaagct agagtaagta 6060
226        gttcgccagt taatagtttg cgcaacgttg ttgccattgc tacaggcatc gtggtgtcac 6120
227        gctcgtcgtt tggtatggct tcattcagct ccggttccca acgatcaagg cgagttacat 6180
228        gatcccccat gttgtgcaaa aaagcggtta gctccttcgg tcctccgatc gttgtcagaa 6240
229        gtaagttggc cgcagtgtta tcactcatgg ttatggcagc actgcataat tctcttactg 6300
230        tcatgccatc cgtaagatgc ttttctgtga ctggtgagta ctcaaccaag tcattctgag 6360
231        aatagtgtat gcggcgaccg agttgctctt gcccggcgtc aatacgggat aataccgcgc 6420
232        cacatagcag aactttaaaa gtgctcatca ttggaaaacg ttcttcgggg cgaaaactct 6480
233        caaggatctt accgctgttg agatccagtt cgatgtaacc cactcgtgca cccaactgat 6540
234        cttcagcatc ttttactttc accagcgttt ctgggtgagc aaaaacagga aggcaaaatg 6600
235        ccgcaaaaaa gggaataagg gcgacacgga aatgttgaat actcatactc ttcctttttc 6660
236        aatattattg aagcatttat cagggttatt gtctcatgag cggatacata tttgaatgta 6720
237        tttagaaaaa taaacaaata ggggttccgc gcacatttcc ccgaaaagtg ccacctgacg 6780
238        tctaagaaac cattattatc atgacattaa cctataaaaa taggcgtatc acgaggccct 6840
239        ttcgtctcgc gcgtttcggt gatgacggtg aaaacctctg acacatgcag ctcccggaga 6900
240        cggtcacagc ttgtctgtaa gcggatgccg ggagcagaca agcccgtcag ggcgcgtcag 6960
241        cgggtgttgg cgggtgtcgg ggctggctta actatgcggc atcagagcag attgtactga 7020
242        gagtgcacca taaaattgta aacgttaata ttttgttaaa attcgcgtta aatttttgtt 7080
243        aaatcagctc attttttaac caataggccg aaatcggcaa aatcccttat aaatcaaaag 7140
244        aatagcccga gatagggttg agtgttgttc cagtttggaa caagagtcca ctattaaaga 7200
```

Line ? Error/Warning   Original Text
----- - ------------------------------------   --